REMARKS

This is a complete and timely response to the non-final Office Action mailed May 9, 2006. Upon entry of the foregoing amendments, claims 1-22 are pending in the application. Claims 1, 6, 7, 9, 11, 12, 17, 19 and 20 have been amended. The subject matter of amended claims 1, 6, 7, 9, 11, 12, 17, 19 and 20 can be found in the originally filed specification in at least FIG. 10 and the detailed description at paragraph 66. Consequently, no new matter is added to the present application. In light of the foregoing amendments and following remarks, Applicants request reconsideration of the application and pending claims.

Claim Rejections Under 35 USC § 103 – Claims 1-22

A. Statement of the Rejections

Claims 1-22 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2005/0002032 to Wijntjes *et al.*, hereafter *Wijntjes* in view of U.S. Patent No. 5,235,177 to Hutchinson *et al.*, hereafter *Hutchinson*.

B.   Discussion of the Rejections

For a claim to be properly rejected under 35 U.S.C. § 103, "[t]he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. In order to make a proper *prima facie* case of obviousness; three basic criteria must be met, as set forth in MPEP 706.02(j). First, there must be some suggestion or motivation; either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references, when combined, must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicant's disclosure.

Applicants' independent claims 1, 9 and 17, as amended, each recite features that are not disclosed, taught or suggested in the proposed combination.

Applicants' independent claim 1, as amended, includes at least "a movable polarizing code element comprising a first concentric code extending over two of four

quadrants of said movable polarizing code element and a second concentric code extending over two of four quadrants of said movable polarizing code segment, the first and second concentric codes juxtaposed one another over one of the four quadrants of said movable polarizing code." At least this element is not disclosed, taught or suggested by the proposed combination.

In contrast with Applicants' claimed polaroid encoder system, *Wijntjes* shows a 2-bit encoder wheel (FIG. 14) with a code segment 754 that does not extend over two of four quadrants. Specifically, code segment 754 does not extend to the horizontal axis in the upper left-hand quadrant of FIG. 14. In addition, code segment 752 and code segment 754 are separated from one another on the surface of polarizer 114a.

In contrast with Applicants' claimed polaroid encoder system, *Hutchinson* shows a 2-bit encoded disc 12 (FIG. 4) with a code segment that extends over two of four quadrants and two additional code segments separated from the first code segment by a guard band 17a that each extend only for opposing quadrants.

Accordingly, the proposed combination fails to disclose, teach or suggest Applicants' claimed system which includes at least "a movable polarizing code element comprising a first concentric code extending over two of four quadrants of said movable polarizing code element and a second concentric code extending over two of four quadrants of said movable polarizing code segment, the first and second concentric codes juxtaposed one another over one of the four quadrants of said movable polarizing code." Thus, for at least this reason, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicants' amended claim 1.

In further contrast with Applicants' claimed Polaroid encoder system, the proposed combination fails to disclose, teach, or suggest at least "a second determination module coupled to receive said amplitude and said quadrant and to determine an angular position of said movable polarizing code element using said amplitude and said quadrant, wherein the angular position is determined using a respective equation associated with each of the quadrants." At least this separate and additional element is not disclosed, taught or suggested by the proposed combination.

In contrast with Applicants' claimed Polaroid encoder system, *Wijntjes* describes a system that determines three (3) simultaneous electrical signals that provide a solution for three (3) independent equations that each have three (3) unknown variables. (*See paragraph 71, Wijntjes.*)

In contrast with Applicants' claimed Polaroid encoder system, *Hutchinson* describes a system that determines an angle or rotation from the start of a quadrant (column 3, lines 33-51). For measurements beyond 90° (i.e., a quadrant), *Hutchinson* uses the above-described two-bit binary code to identify a quadrant. Accordingly, *Hutchinson* describes a system and method where an angular measurement from zero to 360° is resolved by adding the results of two equations (column 3, lines 52-64).

Accordingly, the proposed combination fails to disclose, teach or suggest Applicants' claimed system which includes at least "a second determination module coupled to receive said amplitude and said quadrant and to determine an angular position of said movable polarizing code element using said amplitude and said quadrant, wherein the angular position is determined using a respective equation associated with each of the quadrants." Thus, for at least this separate and additional reason, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicants' amended claim 1.

Consequently, Applicants' claim 1 is allowable over the proposed combination and the rejection of claim 1 under 35 U.S.C. § 103(a) should be withdrawn.

For at least the reason that claims 2-8 depend directly or indirectly from claim 1 and include all the features of independent claim 1, the rejection of claims 2-8 under 35 U.S.C. § 103(a) should also be withdrawn. *In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1998).

Applicants' independent claim 9, as amended, includes at least "illuminating said movable polarizing code element comprising a first concentric code extending over two of four quadrants of said movable polarizing code element and a second concentric code extending over two of four quadrants of said movable polarizing code segment, the first and second concentric codes juxtaposed one another over one of the four quadrants of said movable polarizing code." At least this step is not disclosed, taught or suggested by the proposed combination.

In contrast with Applicants' claimed method and as described above, *Wijntjes* shows a 2-bit encoder wheel (FIG. 14) with a code segment 754 that does not extend over two of four quadrants. Specifically, code segment 754 does not extend to the horizontal axis in the upper left-hand quadrant of FIG. 14. In addition, code segment 752 and code segment 754 are separated from one another on the surface of polarizer 114a.

In contrast with Applicants' claimed method and further described above, *Hutchinson* shows a 2-bit encoded disc 12 (FIG. 4) with a code segment that extends over two of four quadrants and two additional code segments separated from the first code segment by a guard band 17a that each extend only for opposing quadrants.

Accordingly, the proposed combination fails to disclose, teach or suggest Applicants' claimed method which includes at least "illuminating said movable polarizing code element comprising a first concentric code extending over two of four quadrants of said movable polarizing code element and a second concentric code extending over two of four quadrants of said movable polarizing code segment, the first and second concentric codes juxtaposed one another over one of the four quadrants of said movable polarizing code." Thus, for at least this reason, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicants' amended claim 9.

In further contrast with Applicants' claimed method, the proposed combination fails to disclose, teach, or suggest at least "determining said angular position of said movable polarizing code element using said first amplitude, second amplitude and said quadrant, wherein using comprises the application of a respective equation associated with each of the quadrants." At least this separate and additional step is not disclosed, taught or suggested by the proposed combination.

In contrast with Applicants' claimed method, *Wijntjes* describes a system that determines three (3) simultaneous electrical signals that provide a solution for three (3) independent equations that each have three (3) unknown variables. (*See paragraph 71, Wijntjes.*)

In contrast with Applicants' claimed method, *Hutchinson* describes a system that determines an angle or rotation from the start of a quadrant (column 3, lines 33-51). For measurements beyond 90° (i.e., a quadrant), *Hutchinson* uses the above-

described two-bit binary code to identify a quadrant. Accordingly, *Hutchinson* describes a system and method where an angular measurement from zero to 360° is resolved by adding the results of two equations (column 3, lines 52-64).

Accordingly, the proposed combination fails to disclose, teach or suggest Applicants' claimed method which includes the step of at least "determining said angular position of said movable polarizing code element using said first amplitude, second amplitude and said quadrant, wherein using comprises the application of a respective equation associated with each of the quadrants." Thus, for at least this separate and additional reason, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicants' amended claim 9.

Consequently, Applicants' claim 9 is allowable over the proposed combination and the rejection of claim 9 under 35 U.S.C. § 103(a) should be withdrawn.

For at least the reason that claims 11-16 depend directly or indirectly from claim 9 and include all the features of independent claim 9, the rejection of claims 11-16 under 35 U.S.C. § 103(a) should also be withdrawn. *See In re Fine, supra.*

Applicants' independent claim 17, as amended, includes at least "means for illuminating said movable polarizing code element comprising a first concentric code extending over two of four quadrants of said movable polarizing code element and a second concentric code extending over two of four quadrants of said movable polarizing code segment, the first and second concentric codes juxtaposed one another over one of the four quadrants of said movable polarizing code." At least this element is not disclosed, taught or suggested by the proposed combination.

In contrast with Applicants' claimed system for determining angular position of a movable polarizing code element, *Wijntjes* shows a 2-bit encoder wheel (FIG. 14) with a code segment 754 that does not extend over two of four quadrants. Specifically, code segment 754 does not extend to the horizontal axis in the upper left-hand quadrant of FIG. 14. In addition, code segment 752 and code segment 754 are separated from one another on the surface of polarizer 114a.

In contrast with Applicants' claimed system for determining angular position of a movable polarizing code element, *Hutchinson* shows a 2-bit encoded disc 12 (FIG. 4) with a code segment that extends over two of four quadrants and two

additional code segments separated from the first code segment by a guard band 17a that each extend only for opposing quadrants.

Accordingly, the proposed combination fails to disclose, teach or suggest Applicants' claimed system which includes at least "means for illuminating said movable polarizing code element comprising a first concentric code extending over two of four quadrants of said movable polarizing code element and a second concentric code extending over two of four quadrants of said movable polarizing code segment, the first and second concentric codes juxtaposed one another over one of the four quadrants of said movable polarizing code." Thus, for at least this reason, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicants' amended claim 17.

In further contrast with Applicants' claimed system for determining angular position of a movable polarizing code element, the proposed combination fails to disclose, teach, or suggest at least "means for determining said angular position of said movable polarizing code element using said first amplitude, second amplitude and said quadrant, wherein using comprises the application of a respective equation associated with each of the quadrants." At least this separate and additional element is not disclosed, taught or suggested by the proposed combination.

In contrast with Applicants' claimed system for determining angular position of a movable polarizing code element, *Wijntjes* describes a system that determines three (3) simultaneous electrical signals that provide a solution for three (3) independent equations that each have three (3) unknown variables. (*See paragraph 71, Wijntjes.*)

In contrast with Applicants' claimed system for determining angular position of a movable polarizing code element, *Hutchinson* describes a system that determines an angle or rotation from the start of a quadrant (column 3, lines 33-51). For measurements beyond 90° (i.e., a quadrant), *Hutchinson* uses the above-described two-bit binary code to identify a quadrant. Accordingly, *Hutchinson* describes a system and method where an angular measurement from zero to 360° is resolved by adding the results of two equations (column 3, lines 52-64).

Accordingly, the proposed combination fails to disclose, teach or suggest Applicants' claimed system which includes at least "means for determining said

angular position of said movable polarizing code element using said first amplitude, second amplitude and said quadrant, wherein using comprises the application of a respective equation associated with each of the quadrants." Thus, for at least this separate and additional reason, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicants' amended claim 17.

Consequently, Applicants' claim 17 is allowable over the proposed combination and the rejection of claim 17 under 35 U.S.C. § 103(a) should be withdrawn.

For at least the reason that claims 18-22 depend directly or indirectly from claim 17 and include all the features of independent claim 17, the rejection of claims 18-22 under 35 U.S.C. § 103(a) should also be withdrawn. *See In re Fine, supra.*
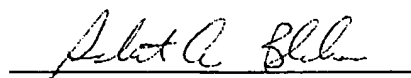
CONCLUSION

For at least the reasons set forth above, Applicants respectfully submit that pending claims 1-22 are allowable over the cited art of record and the present application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully solicited. Should the Examiner have any comments regarding the Applicants' response, Applicants request that the Examiner telephone Applicants' undersigned attorney.

Respectfully submitted,

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